IN THE CLAIMS:

Please amend the claims as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) A method of transforming device-dependent color values in a device-dependent color space of a color input device to device-independent color values in a device-independent color space ~~correcting a forward model of an input color device~~, comprising:

providing a mathematical transformation for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting ~~mapping~~ an input device-dependent color value in the device-dependent color space generated by the color input ~~color~~ device into a device-independent ~~mapped~~ color value in the [[a]] device-independent color space [[by]] using the mathematical model ~~forward model of the color input device~~;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following:

clipping the luminance component to zero ~~a negative luminance component of the mapped color value in the device-independent color space to a non-negative value~~; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, then performing the following:

determining whether or not the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside a spectral locus in the device-independent color space ~~human visual gamut~~; and

when it is determined that the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside the spectral locus, ~~a human visual gamut generating a corrected color value in the device independent color space by~~ clipping the device-independent color value ~~mapped color value in the device-independent color value outside the human visual gamut~~ to another device-independent color value in the device-independent color space on the spectral locus ~~a boundary of the human visual gamut based on the determination result~~.

2. and 3. (Canceled)

4. (Currently amended) The method according to claim 1[[2]], wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

5. (Currently amended) The method of claim 1, wherein clipping the device-independent color value further comprises mapping the ~~mapping maps the clipped~~ device-independent color value outside the spectral locus ~~human visual gamut~~ to an intersection between

a line defined by the ~~clipped~~ device-independent color value and a white point and a [[the]] boundary of the spectral locus ~~human visual gamut~~.

6. (Currently amended) The method of claim 1, wherein the spectral locus ~~boundary~~ is the ISO standard CIE spectral locus on a chromaticity space.

7. (Original) The method of claim 6, wherein the chromaticity space is the CIE chromaticity xy plane.

8. (Original) The method of claim 6, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (UCS) u'v' plane.

9. (Previously presented) The method of claim 1, wherein the device-independent color space is CIEXYZ.

10. (Previously presented) The method of claim 1, wherein the device-independent color space is CIELUV.

11. (Previously presented) The method of claim 1, wherein the device-independent color space is CIELAB.

12. (Previously presented) A data processing system for transforming device-dependent color values in a device-dependent color space of a color input device to device-

independent color values in a device-independent color space ~~correcting a forward model of an input color device~~, comprising:

a processor;

a memory coupled to the processor, the memory having program instructions executable by the processor stored therein, the program instructions comprising:

providing a mathematical transformation for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting ~~mapping~~ an input device-dependent color value in the device-dependent color space generated by the color input ~~color~~ device into a device-independent ~~mapped~~ color value in the [[a]] device-independent color space [[by]] using the mathematical model ~~forward model of the color input device~~;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following:

clipping the luminance component to zero ~~a negative luminance component of the mapped color value in the device-independent color space to a non-negative value~~; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, then performing the following:

determining whether or not the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside a spectral locus in the device-independent color space ~~human visual gamut~~; and

when it is determined that the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside the spectral locus, ~~a human visual gamut generating a corrected color value in the device independent color space by~~ clipping the device-independent color value ~~mapped color value in the device-independent color value outside the human visual gamut~~ to another device-independent color value in the device-independent color space on the spectral locus ~~a boundary of the human visual gamut based on the determination result~~.

13. and 14. (Canceled)

15. (Currently amended) The data processing system of claim 12[[13]], wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

16. (Currently amended) The data processing system of claim 12[[13]], wherein clipping the device-independent color value further comprises mapping the ~~mapping maps the clipped~~ device-independent color value outside the spectral locus ~~human visual gamut~~ to an intersection between a line defined by the ~~clipped~~ device-independent color value and a white point and a [[the]] boundary of the spectral locus ~~human visual gamut~~.

17. (Previously presented) The data processing system of claim 12, wherein the spectral locus ~~boundary~~ is the ISO standard CIE spectral locus on a chromaticity space.

18. (Original) The data processing system of claim 17, wherein the chromaticity space is the CIE chromaticity xy plane.

19. (Original) The data processing system of claim 17, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (DCS) u'v' plane.

20. (Previously presented) The data processing system of claim 12, wherein the device-independent color space is CIEXYZ.

21. (Previously presented) The data processing system of claim 12, wherein the device-independent the color space is CIELUV.

22. (Previously presented) The data processing system of claim 12, wherein the device-independent color space is CIELAB.

23. (Previously presented) A computer-readable medium having program instructions for transforming device-dependent color values in a device-dependent color space of a color input device to device-independent color values in a device-independent color space ~~correcting a forward model of an input color device~~, comprising:

providing a mathematical transformation for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting ~~mapping~~ an input device-dependent color value in the device-dependent color space generated by the color input ~~color~~ device into a device-independent ~~mapped~~ color value in the [[a]] device-independent color space [[by]] using the mathematical model ~~forward model of the color input device~~;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following:

clipping the luminance component to zero ~~a negative luminance component of the mapped color value in the device-independent color space to a non-negative value~~; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, then performing the following:

determining whether or not the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside a spectral locus in the device-independent color space ~~human visual gamut~~; and

when it is determined that the device-independent ~~mapped~~ color value ~~in the device-independent color space~~ is outside the spectral locus, ~~a human visual gamut generating a corrected color value in the device independent color space by~~ clipping the

device-independent color value ~~mapped color value in the device-independent color value outside the human visual gamut~~ to another device-independent color value in the device-independent color space on the spectral locus ~~a boundary of the human visual gamut based on the determination result~~.

24. to 25. (Canceled)

26. (Currently amended) The computer-readable medium of claim 23[[25]], wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

27. (Currently amended) The computer-readable medium of claim 26, wherein clipping the device- independent color value further comprises mapping the ~~mapping maps the clipped~~ device-independent color value outside the spectral locus ~~human visual gamut~~ to an intersection between a line defined by the ~~clipped~~ device-independent color value and a white point and a [[the]] boundary of the spectral locus ~~human visual gamut~~.

28. (Currently amended) The computer-readable medium of claim 27, wherein the spectral locus ~~boundary~~ is the ISO standard CIE spectral locus on a chromaticity space.

29. (Previously presented) The computer-readable medium of claim 28, wherein the chromaticity space is the CIE chromaticity xy plane.

30. (Previously presented) The computer-readable medium of claim 28, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (UCS) u'v' plane.

31. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIEXYZ.

32. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIELUV.

33. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIELAB.